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AUTHOR	Wilson, Cynthia D.; Miles, Cindy L.; Baker, Ronald L.; Schoenberger, R. Laurence
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ABSTRACT

This booklet describes a study that helped clarify the current status of community college efforts in defining and documenting student acquisition of 21st Century Skills (general education skills). This study is traced through four stages: (1) an exploratory focus group involving presidents from ten U.S. community colleges recognized as leaders in the learning outcomes movement; (2) a follow-up focus group with representatives from 15 community colleges, including two Canadian representatives, to achieve consensus on what constitutes 21st Century Skills; (3) a survey of the status of 21st Century learning outcomes practices in U.S. and Canadian community colleges; and (4) two institutional narratives describing model community college approaches to 21st Century student learning outcomes, one at Cascadia Community College (Washington) and the other at Waukesha County Technical College (Wisconsin). Outcomes included: (1) there is widespread attention on improving the process for determining what students are learning in community colleges; (2) community colleges are more likely to use "general education core" or "core competencies" to refer to 21st Century Skills; and (3) the stages of developing and institutionalizing processes to define student learning outcomes do not necessarily follow a linear progression. Appendices include lists of focus group participants and the survey. (EMH)

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Cindy L. Miles
Ronald L. Baker
R. Laurence Schoenberger

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Cynthia D. Wilson
Cindy L. Miles
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FOREWORD

Every new generation of college leaders faces the same tough question: what is the common core of knowledge and skills that should be the hallmark of an educated person? For the first few hundred years in American higher education, the trillium and quadrillion–the seven liberal arts handed down from the Middle Ages–provided a clear answer. The answer became less clear as knowledge expanded in the 1800s and 1900s, and by 1950 the General Education Movement boldly suggested that "the common core of knowledge for the common man," as Earl McGrath referenced it, was the antithesis of the classical liberal arts core. In the past fifty years, American education has been on a roller coaster in its continuing quest for a common core of knowledge and skills; each new decade reflects a different perspective and describes the core in a different language: general education core, basic skills, common core, critical life skills, and core competencies. This ever-changing perspective may be a reflection of the reality that we live in a rapidly changing world, and the most we can hope for is to keep up with the changes and try our best to define, teach, assess, and document the core *du jour*.

The authors of this report have done an excellent job capturing what community college leaders currently dub the common core. "21st Century Skills" resonates well across educational institutions, business and industry, foundations, and policy groups as a moniker for the common core of knowledge and skills required for college students beginning their careers at the start of this new century. Through a series of focus groups with key leaders and an international survey, conducted under the auspices of the League for Innovation in the Community College, these authors document the current status of 21st Century Skills, discover the preference for the language of "learning outcomes," and illustrate how two community colleges are trying to implement programs to help students acquire the skills. They also discover that the real challenge has not changed for hundreds of years: it is easier to talk and argue about what to call the common core and to teach it than it is to assess student acquisition of the skills and to document the acquisition in a useful and meaningful way. Their work, however, paves the way for sustentative efforts planned by the League for Innovation that will address the difficult issues of assessment and documentation of 21st Century Skills.

Terry O'Banion
President Emeritus and Senior League Fellow
League for Innovation in the Community College

LEARNING OUTCOMES FOR THE 21st CENTURY: REPORT OF A COMMUNITY COLLEGE STUDY

We must design a new blueprint for education, a plan for the future that specifies what students need to know, when they need to learn it, and what we need to do to help them.
-Edward M. Kennedy, 1994

When Senator Kennedy called for a "new blueprint for education," he was promoting Goals 2000 legislation aimed at K-12 educational reform. Now that 2000 is upon us, his call seems to be echoing through the halls of community colleges across the U.S. and Canada. Community colleges are responding to the allegation against higher education made by legislators, policymakers, employers, and educators that we cannot readily demonstrate the specific learning achievements of our students. A consensus is emerging among these groups that the widespread reform efforts stimulated by publication of *A Nation at Risk* in 1983 have failed, and that this failure is largely because those efforts were centered on *processes* rather than *outcomes*.

Now, as the page turns on a new century, a number of community colleges have shifted their attention to outcomes, in particular the most important educational outcome–learning. They have committed to "placing learning first" in every policy, practice, and program in the institution and to employing or preparing personnel who can support that goal. Leaders in these pioneering institutions are providing impetus for a new reform movement focused on demonstrating and supporting student achievement by asking hard questions of all institutional decisions and actions: (1) Does this action (change in policy, practice, program, and personnel) improve and expand student learning? (2) How do we know this action improves and expands student learning?

The League for Innovation in the Community College (the League) has been leading the charge toward developing more learning-centered, outcomes-driven approaches in higher

education. League President Emeritus Terry O'Banion has written more than a dozen books, monographs, and articles and has spoken extensively on the topic, and in 1997 the League adopted the Learning Initiative as one of its four central program areas under which all League research, publications, and programs are organized. In the same year, the League launched the *Innovations* conference to bring together educators from around the world who are interested in improving institutional and student learning. In 1998 the League began developing several large-scale projects to stimulate and support the work of two-year colleges in what has been variously called the Learning Revolution, The Outcomes Movement, and Learning-Centered Education. The study reported in this monograph is an early product of one of these projects aimed at helping community colleges better define and certify student learning.

This report traces the study through four stages: (1) an exploratory focus group involving presidents from ten U.S. community colleges recognized as leaders in the learning outcomes movement; (2) a follow-up focus group with representatives from 15 colleges, including two Canadian representatives, to achieve consensus on what constitutes 21st Century Skills; (3) a survey of the status of 21st Century learning outcomes practices in U.S. and Canadian community colleges; and (4) two institutional narratives describing model community college approaches to 21st Century student learning outcomes, one at Cascadia Community College (WA) and the other at Waukesha County Technical College (WI).

Defining the Project: An Exploratory Focus Group

On February 25-26, 1999, the League for Innovation, with support from The Pew Charitable Trusts, convened a focus group of presidents from ten community colleges identified as leading institutions in terms of their focus on learning and outcomes. The purpose of this meeting was twofold: (1) to begin a conversation on establishing competencies for and assessing outcomes of student learning in the community college, and (2) to create a framework for a national project to support community colleges in their efforts to better define and certify student learning. Institutions represented by their senior leaders in this exploratory meeting were Cascadia Community College (WA), Community College of Baltimore County (MD), Community College of Denver (CO), Cuyahoga Community College (OH), Johnson County Community College (KS), Lane Community College (OR), Midlands Technical College (SC), Richland College (TX), San Diego Community College (CA), and Sinclair Community College (OH). Joining the ten presidents in the meeting were representatives from The Pew Charitable Trusts (PA), the National Center for Higher Education Management Systems (CO), and Senior League Fellows K. Patricia Cross (CA) and Robert H. McCabe (FL). League staff members Terry O'Banion and Cindy L. Miles facilitated the meeting. (For full list of participants, see Appendix A.)

Focus group participants discussed the growing pressures on community colleges to document that their students possess core competencies suited to the requirements of our current Knowledge Age and global economy. They agreed that traditional efforts to codify student learning through grades and credits alone are insufficient and that we need additional, more precise methods of illustrating and certifying student learning. The consensus of the group was that the use of competencies or proficiencies would improve our present methods of documenting student learning.

During the meeting, Peter Ewell and Karen Paulson from the National Center for Higher Education Management Systems (NCHEMS) shared a white paper they prepared for this project, "21st

Century Skills for Community College Education: The Critical Role of Competencies," in which they argue that "America's community colleges have a rare opportunity to take the lead in developing innovative approaches to meet the skills challenges of the new millennium." Ewell and Paulson explained the paper's premise that preparing students with the 21st Century Skills that "encompass levels of literacy, numeracy, and technical knowledge far above that possessed by the nation's current workforce and citizenry" will require collective cross-disciplinary approaches that call for "remaking the basic building blocks of community college programs around assessed competencies rather than traditional coursework."

In the NCHEMS paper, Paulson and Ewell argue that "community colleges are more experienced with the use of competencies than their four-year counterparts, often embracing them widely within particular vocational programs." However, they also note that "this use of competencies has not generally affected a college's more 'academic' offerings," and call for embedding competency-based concepts more fully into "every aspect of a community college's approach to learning." Paulson and Ewell recommend a comprehensive competency-based approach that fosters a common "language of proficiency" and offers benefits to both individual students and institutions. Students would benefit, the authors maintain, by being able to clearly show their achievement of specific levels of essential knowledge and skills in terms of transfer to other institutions, documentation for employment, recognition of prior achievement, and certification of lifelong learning. Institutions would benefit from greater internal alignment across programs, departments, and classrooms and from enhanced ability to meet external accountability pressures and to improve programs and services.

The presidents participating in the focus group responded with interest to the NCHEMS paper. Each described his or her college's efforts to use competencies or proficiencies to certify student learning, and most agreed that their institutions are at early stages in implementing full-scale programs to identify and certify student learning competencies. The great majority of these leading colleges are currently using competencies for the purposes of program review and institutional effectiveness, but most admitted they have

far to go in the use of competency-based processes and programs to certify learning outcomes for all students.

The authors of the NCHEMS paper acknowledge that a competency-based approach to higher education is not without pitfalls, and focus group participants reinforced this perspective. The presidents articulated a number of challenges: defining, measuring, and codifying skills and knowledge for common acceptance and application; articulating learning outcomes across institutions and sectors of education; identifying and dealing with the effects of competency-based approaches on faculty roles; breaking down and accurately assessing complex skills and abilities; and finding the resources to support efforts to develop a more outcomes-based curriculum or become a more outcomes-based institution. Most agreed that the first hurdle to overcome would be achieving consensus about the skills, knowledge, and abilities that students, employers, and other institutions demand and recognize as important.

Focusing on 21st Century Skills

After much discussion and review of current efforts in the ten community colleges represented in the focus group, participants agreed that a national project centered on identifying competencies and assessment strategies for "21st Century Skills" would be the most effective avenue for leveraging the greatest amount of change regarding the certification of student learning in community colleges.

They agreed that in the community college, 21st Century Skills incorporate the "hard" skills of literacy, numeracy, and information technology literacy, as well as the "soft" skills of teamwork, communication, problem solving, and the ability to work with diverse groups, and that success in the workforce or in further education depends on acquisition of these skills. The group reviewed the *New Basic Skills*–six core skills for secondary education identified by Murnane and Levy (1996)–that are a combination of these hard and soft skills. Focus group participants agreed that a version of these new basic skills appropriate for community colleges could help repair the skills of underprepared high school students, update the skills of returning workers, and

certify the skills of graduates for entry into the workforce or transfer to further education.

The presidents agreed that the value of focusing on 21st Century Skills for a large-scale demonstration project is in the interdisciplinary impact of this approach: these skills cut across existing programs and involve faculty members from developmental education, workforce training, and academic transfer programs. They also noted that another powerful outcome of developing full-scale competency-based curriculum models would be helping to remove the stigma attached to remediation, since in a competency-based environment all students are involved in learning to fill their gaps in essential skill areas.

Although participants debated whether such a project should focus on a subset or take on the full range of 21st Century Skills, they agreed that the process should involve a team of faculty members across institutions to identify the skills and to benchmark levels of proficiency for each skill. Most agreed that academic leadership would be needed for any project and that such a project should be focused on instructional development.

Focus group members also expressed great interest in the idea of documenting student learning of core skills in an electronic transcript or portfolio that would be useful to employers, other colleges, and to the students themselves. One president described his vision of such a "smart card," a technology-based transcript that would contain a student's assessment scores, competency levels, course credits, and grades, as well as nontraditional examples of achievement such as video clips, photos, or electronic documents of student projects or presentations to demonstrate learning beyond that measured by traditional tests. Most participants also saw value in establishing a project Web site to share project progress and other exemplary activities that would assist the greatest number of community colleges in creating competency-based programs. Several participants noted the importance of anchoring the project with the League because of its reputation in the community college world. Clearly, by the close of the meeting, participants were highly motivated by the ideas exchanged, and they all indicated interest in being involved in any further project developments.

THE 21ST CENTURY SKILLS PROJECT

Following the February 1999 meeting, the League developed a two-stage project designed with an overall goal to *increase the capacity of community colleges to define and certify the acquisition of 21st Century Skills for their students*. Stage One of this project, supported by The Pew Charitable Trusts, was a planning project with two research objectives, the findings of which are reported in the next two sections of this monograph:

1. Achieve consensus among leading colleges regarding what constitutes 21st Century Skills.
2. Determine the current status of activity regarding efforts of community colleges to define and certify competencies related to student learning.

Achieving Consensus on 21st Century Skills

The first step in defining a large-scale project to support community college efforts in certifying student learning was to better define the terminology surrounding our objectives. Findings from the initial focus group and a review of the literature of learning outcomes and competency-based education revealed a need for consensus about what constitutes "21st Century Skills" for community college students. Although the presidents participating in the exploratory focus group unanimously agreed that 21st Century Skills should be the program priority for this project, the colleges refer to these skill sets by names idiosyncratic to the culture of their respective institutions: *core competencies, learning outcomes, generic skills, and critical life skills*, for example. Agreement among these leading institutions on a common frame of reference for what constitutes 21st Century Skills was an important beginning for this project.

Expanding interest in the project led the League to invite representatives from 15 community colleges–the ten whose presidents participated in the February 1999 meeting and five others whose presidents expressed high interest in the project–to help accomplish the first project objective of achieving consensus on a definition of 21st Century Skills: Cascadia Community College (WA),

Central Piedmont Community College (NC), Community College of Baltimore County (MD), Community College of Denver (CO), Cuyahoga Community College (OH), Humber College of Applied Arts and Technology (ON), Johnson County Community College (KS), Kirkwood Community College (IA), Lane Community College (OR), Midlands Technical College (SC), Richland College (TX), San Diego Community College (CA), Sinclair Community College (OH), Sir Sanford Fleming College of Applied Arts and Technology (ON), and Waukesha County Technical College (WI).

To determine, prior to the convening of the group, a preliminary set of terms used among the colleges to describe 21st Century Skills, League researchers reviewed institutional documents outlining the colleges' definitions of key student learning outcomes or skills. Document analysis indicated that colleges were in various stages of definition, some having clearly delineated collegewide skills, with subsets, levels of achievement, and outcomes, while others were in the early stages of defining these skills. Although the colleges varied in the titles they gave to skill categories, the researchers identified similarities in skill sets. For example, all of the eleven colleges that provided documents included *communication*–written, oral, or both–as a critical skill category, and ten colleges had a category of *thinking skills*. *Teamwork* and *personal skills* were identified in more than half of the colleges. Other commonly identified skill categories were *technology, math, diversity, learning, arts, science, resource management, creativity,* and *SCANS*. The participating community colleges' skill sets were presented on a matrix to provide a starting point for the focus group's consensus building process.

On November 6-7, 1999, representatives from the 15 colleges met in Santa Ana (CA) to participate in the focus group. The group's objectives were (1) to develop a consensus on the 21st Century Skills to be addressed in the large-scale community college project and (2) to brainstorm the project framework. Eight of the 15 participants were the academic leaders for their institutions, two were college or campus presidents, and the remaining five were key leaders responsible for programs related to defining and assessing learning competencies at these colleges. (A list of November 1999 focus group participants is provided in Appendix B.)

Focus group participants reviewed the matrix of comparative typologies of core student competencies or skills and shared their institutional experiences in developing and implementing processes to define and assess student learning in terms of these skills. Participants discussed challenges to developing a common set of skills in terms of institutional differences and bridging the gap between academic and technical or workforce terminology. Although the colleges differed slightly from each other regarding identification and definition of 21st Century Skills, sufficient consensus was achieved to identify and loosely define a set of eight categories of core skills:

1. Communication skills (reading, writing, speaking, listening)
2. Computation skills (understanding and applying mathematical concepts and reasoning, analyzing and using numerical data)
3. Community skills (citizenship; diversity/pluralism; local, community, global, environmental awareness)
4. Critical thinking and problem solving skills (analysis, synthesis, evaluation, decision making, creative thinking)
5. Information management skills (collecting, analyzing, and organizing information from a variety of sources)
6. Interpersonal skills (teamwork, relationship management, conflict resolution, workplace skills)
7. Personal skills (ability to understand and manage self, management of change, learning to learn, personal responsibility, aesthetic responsiveness, wellness)
8. Technology skills (computer literacy, Internet skills, retrieving and managing information via technology)

Participants pointed out that these skills are anchored in a set of four fundamental assumptions:

1. These skills are important for every adult to function successfully in society today.
2. Community colleges are well equipped and well positioned to prepare students with these skills.

3. These skills are equally valid for all students, whether they transfer to a four-year college or university or pursue a career path after leaving the community college.
4. These skills may be attained anywhere; many students will enter the community college having already achieved some or all of these skills, and community colleges must work to document and credential such prior learning.

Further discussion among focus group participants revealed general agreement regarding the trend among students toward a desire for marketable skills over general education. As one participant described it, "our students no longer want 'just-in-case' education, they want 'just-in-time' skills." Focus group members also underscored the potential implications that adopting a 21st Century Skills approach to student learning has on shifting the role of community colleges from delivery of learning to credentialing, assessing prior learning, and offering multiple learning options for students to attain their desired skills.

To better understand the selected colleges' efforts to establish competency-based programs for 21st Century Skills, League staff members made site visits to five institutions: Central Piedmont Community College, Community College of Denver, Midlands Technical College, Richland College, and Waukesha County Technical College. These visits validated the keen interest expressed by focus group representatives from these colleges in defining, developing, delivering, and documenting 21st Century Skills for their students. Researchers also discovered several common challenges that colleges face in pursuing these objectives, particularly in terms of insufficient resources and models for putting these ideas to practice. College staff involved in these efforts repeatedly underscored several needs they encounter in trying to institutionalize a student learning outcomes approach: the need for time to design and develop new policies and practices; the need for established models, particularly for assessing and documenting skills; and the need for appropriate training for faculty and staff. The site visits reinforced findings from the focus groups that suggest most community colleges are in the early stages of their journeys. Nevertheless, from these visits, document analysis, and focus groups, a set of 21st Century Skills and the challenges of implementing

them on an institutional level began to emerge. The next step was to get a wide view of how community colleges in general are using competency-based models to support student learning.

Survey of the Status of 21st Century Student Learning Outcomes

Our second research objective was to determine the current status of activity regarding efforts of community colleges to define and certify competencies related to student learning. The projects of the League's Learning Initiative have made clear that hundreds of community colleges are committed to becoming more learning-centered institutions. In a July 1997 League study of the 523 presidents of the League's Alliance for Community College Innovation (Alliance) member colleges, 97% of the 324 respondents (a response rate of 62%) indicated their institutions will move toward becoming more learning centered in the next three to five years. In addition, 98% responded that the options for learning in terms of time, place, and methods offered by their colleges would increase. However, the extent to which the nation's community colleges are using competency-based models to achieve these broad goals was not known.

Using data gathered through a review of literature, document analysis, focus groups, site visits, and key consultants, a draft survey was developed. The draft was field tested in the 15 colleges and with the project consultants, and revisions were made. In November 1999, the survey (Appendix C) was mailed to the chief academic officers of the 677 U.S. and Canadian Alliance member colleges. Respondents were given the options of submitting replies by mail or fax, or completing an online version of the survey. The online survey form was produced and hosted by League corporate partner E-Curriculum, a company pioneering evaluation and research for online learning (www.e-curriculum.com). Results from all forms were integrated into the online version, after which E-Curriculum calculated the results and presented them in graphic form.

The purpose of the survey was to conduct a baseline assessment of the extent of the efforts of U.S. and Canadian community colleges to establish and assess student achievement

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of 21st Century Skills. The survey incorporated items to determine community college interest in and level of implementation of 21st Century Skills initiatives. It was also designed to ascertain the terminology most often used to describe 21st Century Skills, the barriers to implementing 21st Century Skills initiatives, the resources needed for implementing such initiatives, and exemplary models of implementation. The descriptor *21st Century Skills* was defined on the survey instrument:

> 21st Century Skills (often referred to as core skills, general education core, critical life skills, core competencies, basic skills, etc.) usually include 4 to 6 key areas deemed essential for student success in the Knowledge Age that characterizes the new global economy. Throughout the survey, the language used to refer to these skills is "21st Century Skills."

The 677 U.S. and Canadian member colleges of the League's Alliance for Community College Innovation represent a wide cross section of North American community colleges, and we consider this representative of community colleges across the U.S. and Canada. With 259 responses–a response rate of 38%–the results of this survey provide a status report useful in defining the next steps of a continuing project that can benefit community colleges throughout the U.S. and Canada.

Survey Results

Generally, the results of the survey validated study findings from document analysis, focus groups, site visits, and review of the literature. Results of the eight survey items and brief discussion of these results in the context of other study findings follow.

1. Is your college currently addressing the issue of 21st Century Skills?

	Number	Percent
Yes	238	92%
No	21	8%
Total	259	-

More than 90% of the respondents indicated that their colleges are addressing the issue of 21st Century Skills. The high level of community college engagement in efforts to address this issue is consistent with the widespread interest among study participants in preparing students for the 21st Century.

2. Check *one* item in the following list that your faculty and staff use most often when referring to 21st Century Skills:

	Number	Percent
21st Century Skills	8	3%
Basic Skills	21	9%
Core Competencies	62	26%
Core Skills	10	4%
General Education Core	81	34%
Generic Skills	8	3%
Life or Critical Life Skills	8	3%
Work Skills	14	6%
Other	30	12%
Total	242	-

Early in the study, we observed that a great variety of terms were used to refer to what we were calling 21st Century Skills, and that few colleges we encountered were using this term. The survey results support this observation. Among respondents, the most commonly selected terms used for the key set of learning outcomes needed by students were *general education core* (34%) and *core competencies* (26%). Of the six other terms, none were reported in use by more than 9% of the colleges represented in this study. We found that the term we used for this study, *21st Century Skills*, was used by only 3% of the respondents. Nine percent of the colleges indicated that they use the term *basic skills*, 6% use *work skills*, 4% use *core skills*, 3% use *life or critical life skills*, and 3% use *generic skills*. Approximately 12% of the respondents said they use terms other than those offered in the survey, and many of the 13 alternate terms were slight variations of the eight options on the

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survey. For example, *core abilities* and *general education and workplace competencies* were listed and are similar to *general education core* and *core competencies*. The only term that departed from the list was *SCANS*, reported by five colleges.

3. If your college has agreed on a set of 21st Century Skills, check all of the following skill areas that are included:

	Number	Percent
Collaboration/teamwork	155	67%
Communication (written/oral)	209	91%
Creativity	98	43%
Critical thinking/problem solving	203	88%
Cultural/global studies/diversity	135	59%
Humanities	116	50%
Information management	159	69%
Learning skills	114	50%
Mathematics	181	79%
Personal responsibility/management	109	47%
Technology literacy	199	86%
Total Number of Colleges Responding	230	-

The 21st Century Skills listed in this survey item were derived from focus groups, site visits, and document analysis of curriculum material from the fifteen institutions that participated in the early phase of the study. All but two of the eleven skills were identified by at least 50% of the respondents; the two remaining skills were identified by over 40%.

Of the 230 institutions indicating that they have agreed on a set of 21st Century Skills, almost half include all eleven items listed on the survey. Most colleges represented in this study include *communication (written/oral)* (91%), *critical thinking/problem solving* (88%), *technology literacy* (86%), and *mathematics* (79%) in the set of 21st Century Skills. Many institutions also include *information*

management (69%), *collaboration/team work* (67%), *culture/global studies/diversity* (59%), *humanities* (50%), *learning skills* (50%), *personal responsibility/management* (47%), and *creativity* (43%).

Approximately 10% of the respondents answered the open-ended prompt for "other" skill areas used at their colleges. As with the previous question, many of these are semantic variations of the categories listed in the survey; however, six additional areas were noted by at least three respondents: ethics (7), natural sciences (7), social responsibility/citizenship (5), aesthetics (4), workplace readiness (4), and health and wellness (3).

4. Indicate the level of implementation your college has achieved for each of the following items:

1=None 2=Discussion 3=Planning 4=Partial Implementation 5=Full Implementation

	1	2	3	4	5
A. We have agreed on a definition of 21st Century Skills.	12 5%	37 16%	39 16%	72 30%	79 33%
B. We have integrated 21st Century Skills into our curriculum.	6 2%	28 12%	30 13%	135 56%	41 17%
C. Faculty Teach 21st Century Skills in their courses.	6 2%	18 8%	24 10%	157 65%	35 15%
D. We have agreed on how to assess student achievement of 21st Century Skills.	13 6%	53 22%	69 29%	87 37%	14 6%
E. Faculty routinely assess student achievement of 21st Century Skills in their courses.	14 6%	40 17%	54 22%	118 50%	12 5%
F. We document student achievement of 21st Century Skills in ways other than grades and course credit.	40 17%	58 24%	47 20%	80 34%	13 5%

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This survey item explores the progress institutions are making toward defining and certifying acquisition of 21st Century Skills. Chief academic officers indicated the level of implementation of their colleges in terms of defining, integrating, teaching, assessing, and documenting student achievement of these skills.

A. Definition. Only one-third of the colleges responding indicated that they have achieved full agreement on a definition of 21st Century Skills. Another 30% reported that they have achieved partial agreement on a definition. The remaining 37% of the colleges represented in this study noted that they are either in the discussion or planning stages or have no activities under way in defining 21st Century Skills.

B. Integration. Among respondents, 73% report that they are either partially or fully integrating 21st Century Skills into the curriculum. About a fourth of the respondents indicate they are in the discussion or planning stages of implementation.

We note with interest that more colleges indicated they are integrating skills into the curriculum than reported having agreed on definitions of those skills. Findings from site visits and focus groups suggest that this discrepancy may be a result of colleges recognizing the importance of integrating 21st Century Skills into the curriculum and beginning work toward this implementation while not having complete systems in place for that integration. Half as many institutions indicate they have reached full integration (17%) as have reached full agreement on definition (33%) of 21st Century Skills.

C. Instruction. Eighty percent of colleges in the study reported that their faculty are teaching 21st Century Skills in at least some of their courses. About 18% said they are in the discussion and planning stages for instruction. Again, more colleges indicated that faculty are teaching the skills than reported having defined or integrated the skills into the curriculum.

D. Assessment Methods. Of the respondents, 43% noted that they have either partially or fully agreed on methods of

assessing student achievement of 21st Century Skills. More than half of the colleges in the survey reported they have not moved beyond the discussion and planning stages of determining methods of assessment.

E. Assessment. More than half (55%) of colleges in the study indicated that faculty routinely assess student achievement of 21st Century Skills in their courses. Almost 40% reported that they are in the discussion and planning stages of faculty assessment of student achievement of these skills, and approximately 6% indicated that faculty do not routinely assess student achievement of these skills in their courses.

More colleges reported activity in assessment of student achievement of 21st Century Skills (55%) than reported having developed standard practices for this assessment (43%). This mirrors the relationship between agreement on definition of 21st Century Skills and the integration of these skills into the curriculum. In both sets of responses, the findings indicate that although colleges are actively engaged in student achievement of 21st Century Skills, many do not have formal institutional processes in place for curriculum development, instruction, and assessment of 21st Century Skills.

F. Documentation. Only about 5% of colleges reported having fully implemented documentation processes for student achievement of 21st Century Skills in ways other than grades and course credit. Another 34% indicated partial implementation of nontraditional documentation processes. Approximately 44% of respondents said they are in the discussion and planning stages, while 17% indicated they are not addressing documentation other than through grades and course credit.

Documenting student achievement of 21st Century Skills in ways other than grades and course credit can provide clear evidence of student learning, and findings from focus groups, site visits, and document analysis underscore the increasing importance of certifying student learning outcomes. Despite this emphasis, survey results reveal that college activity in documenting student achievement of 21st Century Skills is

substantially lower than it is in defining, integrating, teaching, and assessing these skills.

5. **Check the term in the following list that your faculty and staff use most often when they talk about assessing 21st Century Skills. Check only one.**

	Number	Percent
Abilities	7	3%
Competencies	92	37%
Grades	8	3%
Knowledge	5	2%
Performance standards	11	5%
Learning outcomes	93	38%
Proficiencies	7	3%
Skills	13	5%
Other	10	4%
Total	246	-

We thought this item important because preliminary exploration of college activities with 21st Century Skills revealed differences in the use of language surrounding assessment. We created this item to discover the assessment terminology that is most widely used among U.S. and Canadian community colleges.

The chief academic officers of the colleges responding to the study reported that *learning outcomes* (38%) and *competencies* (37%) are the terms most often used by faculty and staff in discussing assessment of 21st Century Skills. The other assessment terms–*skills* (5%), *performance standards* (5%), *grades* (3%), *abilities* (3%), *proficiencies* (3%), and *knowledge* (2%)–listed on the survey are used by fewer than 6% of the colleges in the study. Those who selected *other* (4%) either listed variations of the term *outcomes* or indicated that no single assessment expression was used at their institutions.

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6. Rate the following barriers to integrating the use of 21st Century Skills in your institution.

1=Not a Barrier 2=Minor Barrier 3=Major Barrier

	1	2	3
Lack of agreement on language and definitions for 21st Century Skills	100 40%	134 53%	17 7%
Lack of agreement on how to assess 21st Century Skills	33 13%	144 57%	75 30%
Lack of leadership from college administration	193 77%	52 20%	7 3%
Inadequate funds to support needed activities	85 33%	123 49%	45 18%
Inadequate time for needed activities	31 12%	118 47%	104 41%
Lack of useful models for successful integration of 21st Century Skills	73 29%	122 48%	57 23%
Lack of useful assessment tools for 21st Century Skills	47 19%	119 47%	86 34%
Articulating 21st Century Skills with K-12 systems	54 22%	116 48%	74 30%
Articulating 21st Century Skills with other community colleges	120 48%	108 44%	19 8%
Articulating 21st Century Skills with 4-year colleges and universities	59 24%	116 47%	73 29%
Articulating 21st Century Skills with employers	119 48%	113 45%	17 7%
Integrating the use and assessment of 21st Century Skills into liberal arts/transfer programs	74 30%	118 48%	53 22%
Limitations imposed by state agencies or legislators	137 55%	79 32%	31 13%

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Of the 13 barriers listed on the survey, all but two were identified as major or minor barriers by more than half of the respondents. Respondents indicated that the greatest barriers to integrating 21st Century Skills in their institutions are *inadequate time for needed activities* (88%), *lack of agreement on how to assess 21st Century Skills* (87%), *lack of useful assessment tools* (81%), *articulating with K-12 systems* (78%), *articulating with 4-year colleges and universities* (76%), *lack of useful models for successful integration of 21st Century Skills* (71%), and *integrating the use and assessment of 21st Century Skills into liberal arts/transfer programs* (70%). Over half of the respondents also identified as major or minor barriers *inadequate funds to support needed activities* (67%), *lack of agreement on language and definitions* (60%), *articulating 21st Century Skills with employers* (52%), and *articulating 21st Century Skills with other community colleges* (52%). The least frequently noted barriers are *limitations imposed by state agencies or state legislators* (45%) and *lack of leadership from college administration* (23%).

The most frequently cited barriers–lack of time, lack of agreement on assessment, and lack of useful assessment tools–may help explain why many institutions are in early stages of 21st Century Skills activity. Although leadership from college administration was found to be the least frequently identified barrier to integrating 21st Century Skills in the institution, this survey was completed by college administrators and thus may reflect bias from that perspective.

7. To what extent does your college assess competencies in the following program areas:

1=None 2=Low 3=Moderate 4=Considerable 5=Complete

	1	2	3	4	5
Occupational/technical programs	1 <1%	14 5%	37 15%	139 55%	63 25%
Liberal arts/transfer programs	8 4%	59 24%	101 41%	59 24%	18 7%
Workforce training programs	5 2%	21 8%	50 20%	115 46%	59 24%
Remedial/developmental programs	2 1%	22 9%	67 26%	112 44%	51 20%

The survey findings verify that colleges most often assess competencies in their *occupational/technical programs. Workforce training programs* and *remedial/developmental programs* were also noted to have a high incidence of competency assessment. Less than a third of the respondents indicated that competencies are assessed to a considerable or complete extent in *liberal arts/transfer programs.*

These findings validate our observations and experience as well as reports from focus group participants that outcomes assessment is more frequently associated with vocational than with academic programs.

The survey also included a final, optional item requesting that respondents identify exemplary college models of implementation of 21st Century Skills. More than 50 recommendations were submitted. Two of the community colleges cited–Cascadia Community College and Waukesha County Technical College–were asked to submit institutional narratives to provide the study with a closer look at 21st Century Skills development at the college level. These colleges were selected in part because they provide contrasting approaches to 21st Century Learning Outcomes. Waukesha County Technical College has been involved in outcomes-based education since the early 1980s, when a grassroots movement began among a few student services faculty; during the past two decades, that movement has grown to encompass the entire college. Cascadia, a new community college, started its institutional life by designing a complete curriculum through a holistic outcomes-based process. Both colleges were also identified as leaders in outcomes-based education, and representatives from these institutions participated in the focus groups for this study.

21ST CENTURY LEARNING OUTCOMES: AN INTEGRATION OF CONTEXT AND CONTENT

Ronald L. Baker

Preparing for its opening in the fall of 2000, Cascadia Community College is designed to create a culturally rich learning environment that employs best practices for teaching and learning, diverse pedagogies, and delivery methods designed to foster achievement of 21st Century learning outcomes. Cascadia, Washington's 33rd community college, will be co-located with the University of Washington-Bothell on a 125-acre campus that is currently under construction.

Because limited resources made impossible the hiring of a full complement of faculty to develop the curriculum, Cascadia employed creative and effective planning and development strategies to meet the required outcome of a comprehensive curriculum ready for delivery when the college opens. Key among these strategies was the selection of a Curriculum and Learning Design Team (CLDT) of individuals with faculty credentials and practical classroom teaching experience to research current trends and best practices. The results of this team's research form the foundation for Cascadia's curriculum.

Four faculty were selected for the CLDT: Sharon Buck, developmental mathematics and college success strategies; Pam Dusenberry, developmental English and college success strategies; Tris Samberg, chemistry and service learning; and Charles Sasaki, history and diversity education. Later, Peggy Moe was hired to direct the development of Cascadia's professional-technical programs. Individually, the team members contribute expertise and perspective for key elements of the curriculum. Collectively, they craft and design the culture and framework for the curriculum as a whole.

In employing this team strategy, Cascadia faced an unusual paradox: creating a complete curriculum prior to the arrival of the college's teaching faculty while involving the same faculty in the

development of that curriculum. Cascadia met this challenge by creating a multilevel framework of learning outcomes that allows individual judgment and creativity in the implementation of strategies to foster and assess those outcomes. This principle is reflected in the development of Cascadia's 21st Century learning outcomes.

Guiding Principles and Processes

> *Each institution launching an initiative to become more learning centered should develop principles that represent the core values and commitments basic to that institution.*
>
> Terry O'Banion, 1999

Many colleges are transforming their curricula from a teaching-centric model to a learning-centric model. Most commonly this transformation occurs course by course. As a new college, Cascadia has the rare advantage of creating its outcomes-based curriculum holistically rather than piecemeal. The college also has the opportunity to build on the learning theory research and outcomes development work of numerous educators. By designing the curricular outcomes first, the college is able to develop individual courses that fit with and contribute to the overall objectives of the curriculum. A critical first step for Cascadia was determining the strategic directions and learning outcomes that characterize the college's culture and manifest its mission. Lacking an institutional history and without a full complement of faculty and staff to guide the process, the college developed strategic directions and overarching learning outcomes by designing and implementing an outcomes-based planning process.

Curriculum Planning Process

Adapted from the work of Ruth Stiehl (Stiehl & Lewchuk, 2000), Cascadia's curriculum planning process created an operational framework for the development of programs and courses. Beginning with the creation of a common glossary of terms to aid in communication, curriculum planning proceeded through the following interdependent stages of implementation:

- Evaluate the context for learning.
- Define the intended learning outcomes.

- Design assessment methods and measures.
- Define content of courses, programs, and degrees.
- Identify best practices for delivery and support.
- Re-evaluate the context and refine the process.

To evaluate the context for learning, the CLDT turned to Cascadia's core values. Although a sense of those values existed informally, clarity and consensus on core values were essential if they were to form the foundation for the college curriculum, programs, and services. Following a series of discussions, consensus was reached on six *institutional core values*:

- *Diversity.* Diversity and affirmation of cultural differences are hallmarks of a true learning community. Pluralism, diversity, and equity are therefore at the core of Cascadia's mission. Individual difference is affirmed and celebrated in our community of learning.

- *Access.* Cascadia serves learners with a broad range of knowledge, skills, and experiences through open access to programs and services. We nurture new and expansive patterns of thinking, encourage respect for self and others, and provide a safe, healthy, and barrier-free learning environment.

- *Success.* Student achievement is a hallmark of our mission and Cascadia places high value on the academic and personal success of all students. The Cascadia Learning Model approaches the learner holistically and integrates personalized support services into the academic experience to foster student success.

- *Learning.* Educational excellence characterizes our mission. We believe that learning is transformative and personal and that all members of the community are learners. We strive to make learning relevant and connected by tailoring programs and services to needs and goals. Supporting our principle that learning is integrated and interconnected, interdisciplinary connectivity, technological fluency, and

global understanding are embedded throughout the curriculum. We further support this principle by linking programs and services with the community, area enterprise, and other educational institutions.

- *Innovation.* As a learning organization, Cascadia values creative pathways to fulfill its vision and mission by constantly encouraging collaborative learning and growth. We continually expand our capacity to create high standards of performance through the acquisition of new knowledge and our commitment for constant responsiveness to the needs of our community of learners.

- *Environmental Stewardship.* We value the conservation of natural resources and embrace environmental sustainable practices. Cascadia is honored to protect and preserve the restored campus wetlands and to develop their intellectual, academic, and social value for the region and the nation.

Overarching Learning Outcomes

The curriculum design team researched current trends and practices and worked with community groups, students, and educators from other institutions to identify degree, program, and course learning outcomes. Affinity processes were used to gather and synthesize ideas generated by members of the various groups. The results of these activities were analyzed, refined, and triangulated both internally and externally for reliability and validity. Following in-depth review and analysis, four overarching collegewide learning outcomes were developed as goals for all members of the college community. These four collegewide learning outcomes, in turn, form the foundation for Cascadia's curriculum:

Learn Actively. Learning is a personal, interactive process that results in greater expertise and a more comprehensive understanding of the world.

- Develop expertise, broaden perspectives, and deepen understanding of the world by seeking information and engaging in meaningful practice.

- Construct meaning from expanding and conflicting information.
- Engage people in learning, both individually and with others, through reading, listening, observing, and doing.
- Take responsibility for learning.

Think Critically, Creatively, and Reflectively. Reason and imagination are fundamental to problem solving and critical examination of ideas.

- Create, integrate, and evaluate ideas across a range of contexts, cultures, and areas of knowledge.
- Recognize and solve problems using creativity, analysis, and intuition.
- Examine one's attitudes, values, and assumptions and consider their consequences.

Communicate with Clarity and Originality. The ability to exchange ideas and information is essential to personal growth, productive work, and societal vitality.

- Organize and articulate ideas for a range of audiences and purposes.
- Use written, spoken, and symbolic forms to convey concepts creatively.
- Use technology to gather, process, and communicate information.

Interact in Diverse and Complex Environments. Successful negotiation through our increasingly complex, interdependent, and global society requires knowledge and awareness of self and others, as well as enhanced interaction skills.

- Build interpersonal skills through knowledge of diverse ideas, values, and perspectives.
- Collaborate with others in complicated, dynamic, and ambiguous situations.
- Practice civility, empathy, honesty, and responsibility.

Transfer Degree Distribution Area Learning Outcomes

Washington community colleges have a direct block transfer agreement with four-year colleges and universities within the state. The oversight body for that agreement is the Inter-College Relations Commission (ICRC). The ICRC agreement establishes guidelines for minimum requirements regarding transferability of the Associate degree among participating institutions. These guidelines identify basic (foundation) requirements for communication and quantitative/symbolic reasoning as well as distribution requirements for the humanities, social sciences, and natural sciences. Like similar agreements in other states, these requirements are stated in course credits rather than learning outcomes.

To maintain internal consistency and integrity with college core values and overarching learning outcomes, focus groups were convened to develop learning outcomes for basic (foundation) requirements and each of the distribution requirements areas. The groups included carefully selected community and technical college faculty with expertise and experience in each of the ICRC required areas. The challenge for each group was to transform implied learning outcomes reflected as course requirements in the ICRC guidelines into articulated learning outcome statements that simultaneously fulfill ICRC requirements and support Cascadia's learning outcomes. As evidenced by the statements and learning outcomes that follow, that goal was achieved.

Basic (Foundation). Critical skills enable learners to access, process, construct, and express knowledge. These cross-curricular forms and abilities include argument, problem solving, analysis, and syntheses and are organized into three areas: *communication, quantitative reasoning,* and *technology.*

Communication

- *Content Analysis and Evaluation.* Learners will listen to, locate, choose, evaluate context, comprehend, paraphrase,

summarize, analyze, synthesize, and evaluate texts-oral, written, and electronic.

- *Development of Evidence.* Learners will use supporting evidence to create, develop, and present arguments and reasoning.
- *Creative Expression.* Learners will create communications that reflect audience, cultural awareness of self and others, disciplinary awareness, and historical and political settings.
- *Representation.* Learners will use standardized symbol systems (language, visuals and graphics, numbers, etc.) to interpret, evaluate, create, and express knowledge.

Quantitative Reasoning

- *Nature and Practice of Logic.* Learners will articulate and make conscious the problem-solving process, honoring both logic and intuition.
- *Recognition of Patterns.* Learners will identify and make use of repeatable events in developing understanding and expression.
- *Evaluate Quantifiable Events.* Learners will use and evaluate descriptive statistics, quantify data, and use probability and other mathematical tools to assist in understanding and communication.
- *Expression of Concepts.* Learners will understand and apply a variety of quantitative perspectives using abstraction and modeling.

Technology

- *Evaluation of Effects.* Learners will understand the impact of different technologies on individuals and society.
- *Willingness to Change.* Learners will demonstrate an open attitude to relevant and significant technologies.

Humanities. Languages, literature, the arts, and philosophy are the essential cultural expressions of being human. Underlying these subjects are central ideas that vary across times and cultures. These ideas include aesthetics, ethics, symbolism, and creativity as well as core concepts and perspectives used to analyze and

understand creative expression. Through the humanities, learners participate in others' subjective experience of reality and convey to others their own.

- *Content Analysis*. Learners will gain knowledge of the core content of at least two humanities disciplines and apply that knowledge through analysis, synthesis, and evaluation.
- *Personalization*. Learners will investigate the context and language of the human experience to examine and explore their everyday worlds and to expand their experience and understanding of other cultures and times.
- *Creative Expression*. Learners will discover and use a creative process for self-expression to communicate an understanding and/or interpretation of human experience through visual, musical, dramatic, oral, or written products.

Social Sciences. To enhance social responsibility, learners in the social sciences expand their understanding of the nature and behavior of individuals as well as their interaction and organization in multiple cultural contexts.

- *Individual and Societal Levels of Analysis*. Learners will analyze interrelationships between individual and sociohistorical forces.
- *Diversity*. Learners will evaluate how social structures impact diversity, inequality, and social change.
- *Evaluation of Evidence*. Learners will identify and evaluate qualitative and quantitative evidence to draw conclusions about human behavior consistent with social science theory.
- *Theory and Method*. Learners will demonstrate facility to move between frameworks, to use varieties of evidence, and to arrive at multiple conclusions.

Natural Sciences. Science literacy provides a foundation for informed citizenship in our increasingly technological society. Learners practice, communicate, and apply science in order to

understand the natural and physical world and the consequences of human activity within it.

- *Nature of Science.* Learners will comprehend and describe science as a process of generating knowledge that relies on testable hypotheses, verifiable data, and evolving theories that explain natural phenomena.
- *Practice of Science.* Learners will conduct scientific investigations, i.e., design and modify experiments, make accurate observations, and apply quantitative and qualitative strategies to interpret numerical and graphical data.
- *Communication of Science.* Learners will read technical information with understanding and express technical information in written, verbal, and graphical forms for a variety of audiences, both within and outside science.
- *Application of Science.* Learners will know and apply fundamental concepts in the biological, chemical, and physical sciences to make informed decisions and engage meaningfully in ethical issues that involve science and technology.

Course Learning Outcomes

The final stage in developing the framework for Cascadia's curriculum was the identification of individual course learning outcomes. With the overarching college learning outcomes and distribution area learning outcomes as contextual guides, individual courses serve as vehicles to achieve not only discipline-specific learning outcomes, but broader cross-discipline learning outcomes as well. Course Outcomes Guides (COGs) disclose intended learning outcomes that support the achievement of subject content expertise as well as the development of context for that expertise. By considering individual disciplines at this stage of curriculum development, there is greater assurance that both discipline-specific learning outcomes *and* overarching college learning outcomes are addressed in each course.

A number of resources were consulted in the development of the curriculum. In particular, the considerable body of work developed by professional organizations and peers at other colleges and universities stimulated thinking and expanded perspectives. In many cases, that body of work helped Cascadia's curriculum developers establish directions and identify specific learning outcomes that were adapted and incorporated into course COGs.

In addition to the resources consulted in the design of the curriculum, a variety of strategies were employed to develop content for course COGs. For some courses, existing staff expertise was utilized. For areas outside the expertise of Cascadia staff, focus groups of discipline experts were convened to develop content for course COGs. In selective cases, individual faculty from other community and technical colleges were contracted to develop course COG content. Outcomes from these groups were used to develop individual course COGs. All COGs were reviewed internally, and in most cases externally, before receiving final college approval.

Summary

Beginning with a clear understanding of Cascadia Community College core values (diversity, access, success, learning, innovation, and environmental stewardship), the CLDT developed overarching learning outcomes for all members of the college community. The overarching learning outcomes–learn actively, think critically and reflectively, communicate with clarity and originality, and interact in diverse and complex environments–form the guiding principles for the curriculum as a whole. Consistent with college core values, block transfer distribution area learning outcomes support both discipline-specific learning outcomes and overarching college learning outcomes. Finally, course outcome guides for each course identify learning outcomes that support the development of subject area expertise as well as learning outcomes that cross subject areas. Expertise of peers and colleagues and research into current practices were reviewed, adapted, synthesized, and incorporated as appropriate into Cascadia's curriculum.

The outcome of this project is a set of institutional core values that guide overall college directions that, in turn, guide the curriculum. Based upon these values, learning outcomes are defined at the college, degree, distribution area, program, and course levels. The resulting infusion, coordination, and alignment of learning outcomes at course, program, and degree levels supports a relevant outcomes-based curriculum that is internally consistent with core values, reflective of best practices, and focused on student success in the 21st Century.

Waukesha County Technical College: A Student Learning Centered College

R. Laurence Schoenberger

Waukesha County Technical College (WCTC), a comprehensive technical college in southeastern Wisconsin, serves a population base of approximately 365,000. The college has embraced a student development philosophy since the 1970s and is currently functioning as a student learning centered organization. WCTC's current institutional focus is driven largely by grassroots support from champions committed to creating a collegewide learning environment serving all students and other customers.

The college's educational system is designed to help students develop life and work skills that enable them to demonstrate an independent role in society and the workplace. Five *Signature Abilities* result from a student's experiences in the system:

- The student will be able to function responsibly in the community.
- The student will be able to function productively in the workplace.
- The student will be able to apply learning.
- The student will be able to cope with change.
- The student will be able to build effective relationships.

To help ensure that students attain the Signature Abilities, WCTC has implemented several initiatives. Four of these initiatives serve as examples of WCTC's commitment to maintaining a focus on student learning and student success in the 21st Century: *Critical Life Skills, Student Outcomes Assessment,* the *College Matriculation Plan,* and the *Quality Value Process.* Opportunities for students to attain WCTC's Critical Life Skills are delivered across the college, and student achievement of these skills is measured and documented through Student Outcomes Assessment and the College Matriculation Plan. The Quality Value

Process facilitates a continuing organizational focus on providing appropriate opportunities for student learning and on measuring student acquisition of essential skills.

Critical Life Skills

WCTC embarked on a major shift in focus of instruction and delivery in 1986 when instructors and other employees identified a foundation of Critical Life Skills as essential for the occupational and personal success of every WCTC graduate. The foundation concepts of Critical Life Skills are taught directly in general education classes and are applied across the curriculum in occupational courses. Assessment criteria have been developed to evaluate each of the skills in general education courses as well as in occupational courses. The 23 distinct, measurable outcomes that comprise Critical Life Skills are clustered into four areas: *communication skills, analytical skills, group effectiveness skills,* and *personal management skills,* and have been adopted by the college's program advisory committees.

Communication Skills. Use reading, writing, and verbal skills to organize and communicate ideas and information in personal and group settings.

- *Grammar*. Use the basic mechanics of standard written English, such as spelling, punctuation, grammar.
- *Writing*. Use written communication appropriate to the situation to express ideas, needs, and concerns clearly, concisely, and accurately.
- *Interpersonal Communication*. Communicate in interpersonal or small group settings, such as classes, meetings, etc.
- *Public Communication*. Communicate in a formal public setting.
- *Reading*. Read critically and analytically.

Analytical Skills. Use numerical and mathematical concepts, logical reasoning, principles of science/technology, information analysis, and ethical reasoning to make effective decisions and solve problems.

- *Problem Solving*. Demonstrate effective problem-solving skills.
- *Critical Thinking*. Apply the techniques of analytical thinking and effective decision making.
- *Science and Technology*. Apply principles of science and use technology appropriate to occupations.
- *Professional and Personal Ethics*. Apply a collection of generally accepted ethical standards for "right conduct" in both personal and professional areas.
- *Mathematics*. Demonstrate numerical and logical reasoning and apply mathematical concepts in occupational and personal settings.
- *Information Seeking*. Identify and fulfill information needs.

Group Effectiveness Skills. Apply social interaction skills to develop positive relationships and to work effectively with family, community groups, and co-workers.

- *Conflict Resolution*. Apply effective techniques to resolve interpersonal conflict.
- *Social Responsibility and Effective Citizenship*. Demonstrate awareness of the social and global environment by making informed decisions for effective participation in the community.
- *Teamwork*. Work effectively and cooperatively in a group setting.
- *Valuing Diversity*. Value differences among people.
- *Effective Relationships*. Develop positive relationships with family members, co-workers, friends, and others.

Personal Management Skills. Develop self-sufficiency and responsibility for effectiveness in personal and occupational life.

- *Career Development*. Make career choices appropriate to current personal needs and to the changing nature of the labor market.
- *Career Securing*. Demonstrate effective job search skills.
- *Study Skills*. Use effective study skills in order to master course content.

- *Stress Management*. Manage stress in appropriate ways.
- *Coping with Change*. Understand and manage change appropriately.
- *Time Management*. Organize activities to accomplish desired tasks in the time available.
- *Self-Concept*. Evaluate one's self-concept in regards to self esteem, values, attitudes, interests, goals, strengths, and weaknesses.

Under the coordination of the Student Development Steering Committee, each instructional department completed a significant review of the role Critical Life Skills play in educating WCTC students. The review process involved (1) ranking the value of each Critical Life Skill in every occupational program, (2) including appropriate Critical Life Skills for each course in the Course Outcome Summary every student receives at the beginning of a course, and (3) completing a matrix in each occupational program illustrating which courses teach to and assess Critical Life Skills. As a result of this review, WCTC has a comprehensive system that identifies courses in which Critical Life Skills are delivered to students and in which student achievement of these skills is assessed.

To increase student awareness of Critical Life Skills, the Student Development Steering Committee has communicated with a wide range of college and community stakeholders. Major information sharing efforts include placing Critical Life Skills posters in buildings and classrooms and distributing Critical Life Skills brochures and folders throughout the college community.

Student Growth and Development Plan

Student success in attaining Critical Life Skills is heightened through the new *Student Growth and Development (SG&D) Plan* piloted during the 1999-2000 academic year. The SG&D Plan provides students with a self-assessment of their Critical Life Skills status and is a practical working document for students and advisors to use for planning and monitoring Critical Life Skills experiences throughout a student's time of study at WCTC.

Through the SD&G Plan, faculty and advisors receive information from students that helps in designing appropriate opportunities for student learning and for application of Critical Life Skills outside the classroom. In addition, the SD&G Plan provides the foundation for development of a future Critical Life Skills Transcript, envisioned to be a portable document certifying mastery of these skills that students will be able to take to employers or transfer institutions.

Student Outcomes Assessment and College Matriculation

WCTC believes that the primary reason to conduct assessment is to benefit students by strengthening their learning. Two complementary initiatives–the *Student Outcomes Assessment (SOA) Plan* and the *College Matriculation Plan*–are designed to help students succeed at WCTC. To assess student learning, including attainment of Critical Life Skills, the SOA Plan includes three major components: pre-enrollment assessment, during-enrollment assessment, and post-enrollment assessment. The SOA Plan encompasses the many assessment techniques currently in place, those under consideration for change, and those planned for future implementation.

Pre-Enrollment Assessment

Based on the premise that appropriate placement is a key to success, WCTC's admissions procedure includes pre-enrollment assessment activities for all associate degree programs and courses. Currently, all applicants to WCTC associate degree programs are required to complete either the ACT ASSET or COMPASS assessment. Prior to enrollment, students also may be assessed, as appropriate, in a variety of other ways. Examples of additional assessment include proficiency testing, transcript reviews, interviews with counselors, vocational assessment workshops, and standardized test instruments.

To support the Student Outcomes Assessment processes, WCTC's College Matriculation Plan incorporates pre-enrollment assessment, college preparedness/academic skill building, and

academic advising as key components to ensure student success. The matriculation plan defines pre-assessment expectations for students and provides academic advisors to assist students in self-assessment. Advisors also help students understand the importance of assessment in monitoring their progress.

Students who do not meet program readiness scores are required to attend an orientation at the WCTC Learning Place, where an individual educational plan is developed to remedy academic deficiencies in writing, reading, and math. During college preparedness, the student may register for a maximum of 12 credits and is placed in a conditional admissions status.

During-Enrollment Assessment

During-enrollment assessment is course-embedded and may be summative or formative; it occurs while a student is enrolled in a course and includes assessment of student achievement of Critical Life Skills. Some of the effective during-enrollment assessment techniques used by faculty include classroom portfolios, projects, simulations, quizzes, and instructor evaluations. Not limited to gauging student achievement, the various assessments also provide an evaluation of instructional methods. As part of the SOA Plan, assessment activities are reviewed on a regular basis, and reports on assessment activities are shared among the college instructional divisions.

The College Matriculation Plan's new Academic Advising Program assigns an academic advisor to each program student. Within the past 18 months, the college has staffed, trained, and placed more than 100 academic advisors, including both faculty and administrators, and the advising program now serves over 1,800 students.

Post-Enrollment Assessment

Post-enrollment assessment occurs after the student has left WCTC. Examples of these assessment activities include graduate follow-up surveys, employer follow-up surveys, licensure exam

results, and telephone surveys. Post-enrollment activities may be initiated by departments or divisions, or by the Research and Evaluation Services department. These activities are often part of the program review process.

SOA Organization

Central coordination and leadership of the SOA Plan is the responsibility of the SOA Steering Committee. This committee, co-chaired by the executive vice president and the SOA facilitator (a faculty member), consists of a 25-member team of instructional deans, associate deans, faculty, instructional managers, and the curriculum specialist. The committee monitors and maintains assessment activities, shares effective examples of assessment, facilitates pre/during/post-enrollment strategies, shares data on tracking and improving student learning, and interprets and evaluates the college's assessment progress.

The college strongly believes that assessment must be led by faculty, who have always been involved in measuring learning. Implementation of the SOA Plan is the responsibility of each instructional division through an SOA division implementation team, which usually meets monthly and includes the dean, associate deans, faculty, and staff. Approximately half of the division committee members are faculty who are compensated for their efforts. Having one or two members of each division implementation team on the SOA Steering Committee ensures alignment among college divisions.

Quality Value Process

The implementation of Critical Life Skills and Student Outcomes Assessment throughout the curriculum and across college divisions began as a grassroots effort and continues to receive support through an inclusive organizational structure. WCTC's internal *Quality Value (QV)* process integrates the principles of continuous quality improvement, customer focus, and personal empowerment into the daily work processes and long-range planning activities of the college. As the foundation for

the college's organizational structure, the QV process has become part of the culture of the institution as faculty, staff, administrators, board members, and union leaders and members work together to ensure student learning.

For more than a decade, the Quality Value Executive Committee (QVEC) and a small, dedicated QV staff have helped members of the college community work toward improving all processes that directly affect learning, teaching, and college administrative work methods. To date, 340 college staff members have completed *Commitment to Quality*, a two-credit college level introductory course in quality improvement principles and teamwork methods. More than 40 employees have also completed a *Facilitator Training* course to help develop the skills needed to guide teams in process improvement and problem solving projects.

In the same way the QV process assists faculty, staff, and administration in ensuring that students attain the Critical Life Skills, it also provides opportunities for these college employees to reinforce their own learning. Through their involvement in the four categories of QV processes–*Learning for Organizational Growth/Organizational Leadership, Improvement of College Processes, Problem Solving and Creative Teams,* and *Links to the Wisconsin Technical College System*–work clusters engage in their own learning while they support the college's focus on student learning and student achievement of the Signature Abilities and Critical Life Skills.

Learning for Organizational Growth/Organizational Leadership

Learning opportunities sponsored by the QV staff include formal seminars and workshops for staff and informal coaching about quality improvement methods. Major workshops have included nationally prominent guest speakers such as Peter Scholtes, Howard Gitlow, and Joe Colletti, as well as training in Franklin-Covey Leadership Center's programs, including *7 Habits of Highly Effective People, 4 Roles of Leadership* and *What Matters Most*. Informal coaching includes working with natural work

groups to guide the development of unit mission and values documents, developing planning documents, developing and implementing curriculum improvements, and creating student feedback surveys. In addition, members of the QV staff provide significant support to the college by serving as planners and facilitators for annual strategic planning activities.

Improvement of College Processes

Major process improvements have been accomplished through the work of QV teams. One improvement team designed and created the Teaching Innovation Center, which provides daily support for faculty to improve teaching methodology and to integrate technology use into class activities. A team of nursing faculty designed and administered a student feedback survey to provide ongoing information to staff about improvements in curriculum and delivery strategies. Through the Teacher Improvement System, each faculty member uses continuous feedback from students, employers, self, and peers to select and implement four improvement ideas each academic year. The Support Staff Process for Development and Improvement has support personnel working with supervisors to plan and implement changes that benefit multiple stakeholders. These processes have refocused the thinking of college personnel toward student-focused improvements.

Problem Solving and Creative Teams

Teams are formed around a variety of issues to solve problems and create new methods under the guidance of the QV staff. Recently, a number of teams have been charged to develop balanced solutions to thorny problems. Following several years of unsuccessful collective bargaining attempts to address certain work-related issues, QV teams have taken the challenge to create new or to improve existing policies and work methods. One team, for example, addressed the policies and guidelines for providing distance learning opportunities for students. While some teams focus on a specific problem or group's concern, others tackle wide-ranging issues. One such team administers a collegewide climate

survey every three years and facilitates departmental improvements based on the needs identified in the survey.

Links to the Wisconsin Technical College System

QV staff from WCTC have contributed in-service and curriculum expertise to statewide educational development efforts involving their 15 sister colleges and the state board. They have made presentations in teamwork, benchmarking, becoming more student learning centered, and quality principles throughout the state. Over the past six years, QV staff from WCTC have also led an effort to develop a major statewide curriculum project. Working with colleagues from other technical colleges, WCTC staff members created a six-credit curriculum package that provides consistent training in quality-related topics to business clients throughout the state. Two WCTC staff members have served on the steering team for this project and have trained educators to use the materials.

Effects of QV Processes on Student Attainment of Critical Life Skills

WCTC's Quality Value activities support the college's initiative to champion student learning and acquisition of essential skills in direct as well as indirect ways. Faculty, staff, and administrator participation in QV processes has expanded the focus on Critical Life Skills and Student Outcomes Assessment throughout the institution. Developments such as the Teaching Innovation Center and the Teaching Improvement System support faculty in their growth and development. Faculty are applying QV processes and concepts such as continuous improvement and teamwork to improve their delivery of instruction and integrate Critical Life Skills into their courses.

At WCTC, the emphasis on Critical Life Skills extends beyond the traditional classroom. Student achievement of Critical Life Skills is assessed not only by teaching faculty, but also by directors and sponsors of student activities, supervisors of interns and work-study students, and others in the college and community who are engaged in helping students attain these skills. By

expanding the focus on student learning throughout the WCTC community, the QV process links, coordinates, and connects Critical Life Skills across the college.

Summary

WCTC's movement to identify essential skills began in 1986 as an effort by a concerned group of educators searching for a way to measure and document student learning. Since that time, it has become interlinked with the college's emerging student learning centered culture. With the identification of Critical Life Skills and the development of the Student Outcomes Assessment Plan, the college has institutionalized its pledge that students leave WCTC with the Signature Abilities, documented by student attainment of Critical Life Skills. The Quality Value process provides an inclusive environment in which faculty, administrators, and staff throughout the college are involved in the delivery, assessment, and documentation of student achievement of Critical Life Skills. The Student Growth and Development Plan and the movement toward documenting student achievement of Critical Life Skills further the college's central focus on learning and help equip students with a meaningful record of their accomplishments and abilities. Taken together, these initiatives help make Waukesha County Technical College a learning-centered organization that prepares its students to function productively and responsibly in the workplace and community of the 21st Century.

Conclusions, Further Questions, and Next Steps

This study helped clarify the current status of community college efforts in defining and documenting student acquisition of 21st Century Skills and shed light on the language and issues surrounding the concepts of student learning outcomes and competency-based approaches to higher education. As a result of this preliminary foray into the realm of defining and assessing student learning for a new century, we have answered a few of our questions, refined those questions that are still unanswered, and verified that much work remains to be done. In this conclusion we offer a distillation of what we have learned and what work remains to best support community colleges in their efforts to foster student learning for the 21st Century.

Interest in the Topic

Although participants in this study are self-selected based on their interest in the topic of study or selected for their experience and success in learning-centered or outcomes-based education, and so are likely biased in this area, findings demonstrate great interest surrounding the issue of Learning Outcomes for the 21st Century. All our data sources, including direct observation, focus group reactions, literature review, and large-scale survey findings, point to widespread attention on improving the processes for determining what and how much students are learning in community colleges. No end is in sight for the movement toward outcomes assessment, accountability to external stakeholders, and demands of educational consumers for immediate, portable evidence of the outcomes of their investments in higher education. If anything, this aspect of the Learning Revolution seems to be accelerating.

Language of Outcomes

Survey findings also elucidate the use of language surrounding the topic. Although study participants reported that

they understand our meaning when we use the phrase *21st Century Skills*, very few actually use this term. Instead, community colleges are more likely to use *general education core* or *core competencies* to refer to the skill areas deemed essential for student success in the Knowledge Age. This study further indicates that when discussing assessment of student acquisition of these skills, respondents most often use the terms *learning outcomes* or *competencies*. Because *learning outcomes* was the most frequently cited term from our findings and the one most highly recommended by focus group participants, we advocate its use to reference the group of key student skills and abilities needed for success in the 21st Century.

An interesting note on language that prompted discussion among study participants surrounds ways to describe the new job roles of faculty in a learning-centered, outcomes-based educational environment where they no longer act chiefly as disseminators of knowledge. Several study participants referenced the now familiar portrayal of moving from "sage on the stage" to "guide on the side." The president of Cascadia Community College offered a new designation that attracted considerable attention when she suggested addressing faculty in their new roles as "knowledge navigators."

Progressive Disorder

As we envisioned this survey, and indeed the project, we pictured the implementation of a 21st Century student outcomes model as progressing through the steps of building a consensus on a definition of 21st Century Learning Outcomes, integrating them into the curriculum, teaching them in courses, agreeing on assessment methods, routinely assessing student achievement of these skills, and, finally, documenting their achievement. The survey, however, validates what we found through site visits and focus groups: the stages of developing and institutionalizing processes to define student learning outcomes do not necessarily follow a linear progression. Survey findings indicate, for example, that more colleges are teaching the competencies than are defining, assessing, and documenting them. And, although an overwhelming majority of colleges reported that they are

addressing 21st Century Learning Outcomes, those that are focusing on the competencies do not necessarily have an institutional initiative or plan for ensuring the definition, delivery, and documentation of these outcomes.

To some extent, the challenges colleges face in addressing 21st Century Learning Outcomes help explain their seemingly haphazard approaches to addressing these outcomes. Survey findings indicate that the greatest barriers to integrating the outcomes in the community college entail time and assessment issues. In site visits and focus groups, study participants repeatedly underscored the difficulty of developing uniform language, definitions, and assessment procedures for an institutional 21st Century Learning Outcomes initiative. Many said they need more resources and models, particularly for assessment and documentation of student achievement of the outcomes. We conclude that community colleges committed to the goal of implementing a student learning outcomes initiative, but lacking one or more critical resources that allow linear progress toward this goal at the institutional level, may focus their energies in a certain division or on a single step in the system where they can make progress in the moment.

Questions That Remain

Given these difficulties, we are not surprised that community colleges are asking for help in answering questions about their involvement in student achievement of 21st Century Learning Outcomes:

- What are the 21st Century Learning Outcomes appropriate for community colleges?
- What competencies are appropriate for each of the 21st Century Learning Outcomes?
- What level or standard is appropriate for each of the competencies, and how are these best determined?
- How are these standards articulated with K-12 systems and four-year college and university systems?
- How are the competencies and the levels best taught?

- How are the competencies and the levels best assessed?
- How can community colleges transcript competencies and levels achieved for use by transfer institutions, employers, and students?

The final objective of this study is to define the parameters of a large-scale project to best support community college efforts toward defining and certifying student learning outcomes. Searching for answers to these questions begins that process, and to find the answers, global models are needed. These models could be generated by a group of pioneering institutions that would develop tools and serve as laboratories to support student achievement of 21st Century Learning Outcomes. These model community colleges could also serve as an advocacy group promoting an increase in the capacity of community colleges to prepare students to be successful participants in the new global economy.

Next Steps for the Community College

The community college is a particularly appropriate venue for leading and advocating outcomes-based learning in postsecondary education. With competency-based programs in place in vocational and developmental programs, community colleges are familiar with the process and may possess the fundamental knowledge and skill needed to advance the use of outcomes across the institution. The community college's well-established flexibility is evidenced by its history of moving rapidly to meet the changing and growing needs of students, community, business and industry, and other constituents. When competency requirements change, the community college has the adaptability to adjust quickly. As a bridge in the K-16 system, the community college is also well positioned to use learning outcomes to improve matriculation and articulation processes that assist entering students, transfer students, and returning students.

During this study, we noted that at several institutions, including the two highlighted in this monograph, learning outcomes are not limited to student achievement. At Cascadia

Community College, for example, learning outcomes are described as collegewide, emphasizing that the Cascadia community of learners includes all members of the college. The Quality Value process at Waukesha County Technical College supports the institution's learning-centered focus by providing learning opportunities for faculty, staff, administrators, trustees, and union leaders. This finding may indicate an emerging trend that provides additional support for the community college's appropriateness to lead postsecondary outcomes-based education: the commitment to learning extends through all areas of the institution.

Community colleges not only are well suited for leading outcomes-based education, but also are positioned to benefit from a focus on providing 21st Century Learning Outcomes for their students. In their white paper prepared to inform this project, Paulson and Ewell note the advantages of assessing and documenting competencies to both the student and the educational institution. As a student travels through the levels of traditional schooling and into the continuous training and development cycles that characterize the 21st Century workplace, and indeed the new century's society, documentation of outcomes accumulates into a valuable record of learning that has occurred throughout the student's life. For the student, this record is a comprehensive résumé, a true curriculum vitae. Similarly, for the educational institution, it is an accountability document that certifies individual student achievement.

The movement toward outcomes-based education is driven in large part by calls from community college constituents and funding agents to ensure that resources expended on education are used effectively. Legislators, taxpayers, employers, and students want assurance that those who complete publicly funded programs of study have been adequately prepared for work or further education, and they are no longer satisfied with grades posted on traditional college transcripts. The findings from this study indicate that of all the phases of implementing student learning outcomes, community colleges are least involved in documenting student achievement in ways other than grades or

course credit. Documentation, however, is the only stage in the process that directly answers the increasing calls for accountability.

Despite the positive findings of this study, including the indications of overwhelming community college interest in addressing 21st Century Learning Outcomes, the central finding remains: community colleges are not documenting student acquisition of 21st Century Learning Outcomes. As community college educators, we can say that we are focusing on these outcomes, that we are teaching them and assessing student acquisition of them; however, the findings of this study indicate that we are not completely addressing this aspect of student learning. Even among those colleges that seemingly are the furthest along, none have fully defined and implemented an institutionwide system that supports the delivery and documentation of student learning for the 21st Century.

Still, community colleges are interested, often enthusiastically so, in 21st Century Learning Outcomes and the potential that documenting learning affords students, employers, the community, and the college. Community college educators around the world are sketching their customized version of Kennedy's blueprint as they engage in dialogue about how to define, develop, deliver, and document student learning in the new century. Further discussions, research, and development of models and best practices not only will help community colleges prepare students for the Knowledge Age, but also will help them create processes for certifying their achievement of learning.

Appendix A
Focus Group Participants, February 25-26, 1999

Cascadia Community College (WA)
Victoria Muñoz Richart, President

Community College of Denver (CO)
Byron N. McClenney, President

Community College of Baltimore County (MD)
Irving Pressley McPhail, Chancellor

Cuyahoga Community College (OH)
Jerry Sue Thornton, President

Johnson County Community College (KS)
Charles J. Carlsen, President

Lane Community College (OR)
Jerry Moskus, President

Midlands Technical College (SC)
James L. Hudgins, President

Richland College (TX)
Stephen K. Mittelstet, President

San Diego Community College District (CA)
Augustine P. Gallego, Chancellor

Sinclair Community College (OH)
Ned Sifferlen, President

The Pew Charitable Trusts (PA)
Russell Edgerton, Director, Education Programs
James W. England, Officer, Education Programs

National Center for Higher Education Management Systems (CO)
Peter Ewell, Senior Associate
Karen Paulson, Research Associate

League for Innovation in the Community College (CA)
Terry O'Banion, President and Chief Executive Officer
Cindy L. Miles, Vice President and Chief Operating Officer
K. Patricia Cross, Senior League Fellow
Robert McCabe, Senior League Fellow

Appendix B
Focus Group Participants, November 6-7, 1999

Cascadia Community College (WA)
Ronald L. Baker, Vice President for Student Learning

Central Piedmont Community College (NC)
Becky Paneitz, Vice President of Instruction

Community College of Baltimore County (MD)
Henry Linck, Vice Chancellor for Learning & Student Development

Community College of Denver (CO)
Dianne Cyr, Dean of the Center for Learning Outreach

Cuyahoga Community College (OH)
Lawrence J. Simpson, Campus President, District Vice President

Humber College of Applied Arts & Technology (ON)
Joe Aversa, Chair, Task Force on Generic/Employability Skills

Johnson County Community College (KS)
Dan Radakovich, Vice President, Academic Affairs

Kirkwood Community College (IA)
Terry Moran, Vice President, Instruction

Lane Community College (OR)
Mary Brau, Coordinator of Student Outcomes

Midlands Technical College (SC)
Barry W. Russell, President

Richland College (TX)
Herlinda M. Coronado, Vice President of Student Learning

San Diego Community College District (CA)
Kenneth D. Fawson, Assistant Chancellor, Instructional Services & Economic Development

Sinclair Community College (OH)
David Harrison, Dean of Business Technologies

Sir Sandford Fleming College of Applied Arts & Technology (ON)
Terry Dance-Bennink, Vice President, Academic

Waukesha County Technical College (WI)
R. Laurence Schoenberger, Executive Vice President, Student & Instructional Services

League for Innovation in the Community College (CA)
Terry O'Banion, President & Chief Executive Officer
Cindy L. Miles, Vice President & Chief Operating Officer
Cynthia D. Wilson, Director of Programs

LEAGUE FOR INNOVATION IN THE COMMUNITY COLLEGE

SURVEY OF THE STATUS OF 21ST CENTURY SKILLS* IN THE COMMUNITY COLLEGE CURRICULUM

The purpose of this survey is to determine the extent of community college efforts to establish and assess student achievement of 21st Century Skills.*

*21st Century Skills–also referred to as core skills, general education core, critical life skills, core competencies, basic skills, etc.–usually include 4 to 6 key areas deemed essential for student success in the Knowledge Age that characterizes the new global economy. Throughout this survey, the language used to refer to these skills is *"21st Century Skills."* If your institution uses another term for this concept, please make the mental substitution in terminology to respond to the following survey questions.

1. Is your college currently addressing the issue of 21st Century Skills?

- ❑ Yes (If yes, please complete the rest of the survey.)
- ❑ No (If no, please answer questions 6 and 7.)

2. Check <u>one</u> item in the following list that your faculty and staff use most often when referring to 21st Century Skills:

- ❑ 21st Century Skills
- ❑ basic skills
- ❑ core competencies
- ❑ core skills
- ❑ general education core
- ❑ generic skills
- ❑ life or critical life skills
- ❑ work skills
- ❑ other:_____ (please specify)

3. If your college has agreed on a set of 21st Century Skills, check all of the following skill areas that are included:

- ❑ collaboration/team work
- ❑ communication (written/oral)
- ❑ creativity
- ❑ critical thinking/problem solving
- ❑ culture/global studies/diversity
- ❑ humanities
- ❑ information management
- ❑ learning skills
- ❑ mathematics
- ❑ personal responsibility/ management
- ❑ technology literacy

Other(s) (please specify):

_____ _____

_____ _____

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4. Indicate the level of implementation of 21st Century Skills that your college has achieved for each of the following items:

1 = None 2 = Discussion 3 = Planning 4 = Partial Implementation 5 = Full Implementation

	Level of Implementation				
a. We have agreed on a definition of 21st Century Skills.	1	2	3	4	5
b. We have integrated 21st Century Skills into our curriculum.	1	2	3	4	5
c. Faculty teach 21st Century Skills in their courses.	1	2	3	4	5
d. We have agreed on how to assess student achievement of 21st Century Skills.	1	2	3	4	5
e. Faculty routinely assess student achievement of 21st Century Skills in their courses.	1	2	3	4	5
f. We document student achievement of 21st Century Skills in ways other than grades and course credit.	1	2	3	4	5

5. Check the *one* term in the following list that your faculty and staff use most often when they talk about assessing the "learning outcomes" of 21st Century Skills.

- ❑ abilities
- ❑ competencies
- ❑ grades
- ❑ knowledge
- ❑ learning outcomes
- ❑ performance standards
- ❑ proficiencies
- ❑ skills
- ❑ other: _____
  (please specify)

6. Rate the following barriers to integrating 21st Century Skills in your institution.

	Barriers to Implementing 21st Century Skills Not a Barrier	Minor Barrier	Major Barrier
a. lack of agreement on language and definitions for 21st Century Skills	1	2	3
b. lack of agreement on how to assess 21st Century Skills	1	2	3
c. lack of leadership from college administration	1	2	3
d. inadequate funds to support needed activities	1	2	3
e. inadequate time for needed activities	1	2	3
f. lack of useful models for successful integration of 21st Century Skills	1	2	3
g. lack of useful assessment tools for 21st Century Skills	1	2	3
h. articulating 21st Century Skills with K-12 systems	1	2	3
i. articulating 21st Century Skills with other community colleges	1	2	3
j. articulating 21st Century Skills with 4-year colleges and universities	1	2	3
k. articulating 21st Century Skills with employers	1	2	3
l. integrating the use and assessment of 21st Century Skills into liberal arts/transfer programs	1	2	3
m. limitations imposed by state agencies or state legislators	1	2	3

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7. To what extent does your college assess competencies in the following program areas:

1 = None 2 = Low 3 = Moderate 4 = Considerable 5 = Complete

	Extent of assessment of competencies				
a. occupational/technical programs	1	2	3	4	5
b. liberal arts/transfer programs	1	2	3	4	5
c. workforce training programs	1	2	3	4	5
d. remedial/developmental programs	1	2	3	4	5

8. (Optional) As part of this project, we will also be identifying exemplary models of implementation of 21st Century Skills. If you know of best practices in this area in any community college, including your own, please provide the following information.

College: _____

Key Contact: _____

Phone: _____

E-mail: _____

Thank you for your assistance.

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The League–with this core of powerful and innovative community colleges and more than 100 corporate partners–serves nationally and internationally as a catalyst, project incubator, and experimental laboratory for community colleges around the world. Current initiatives take shape in the publications, conferences, institutes, and other quality services associated with the League's internationally recognized Learning-Centered Education, Leadership, Information Technology, and Workforce programs. These current programs, along with the League's 32-year history of service to the community college world, explain why in 1998 *Change* magazine called the League "the most dynamic organization in the community college world."

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IN THE COMMUNITY COLLEGE

www.league.org

26522 La Alameda, Suite 370
Mission Viejo, California 92691
949.367.2884 • FAX 949.367.2885